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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	09/865,136	LAKSONO, INDRA	
	Examiner	Art Unit	
	Dika C. Okeke	2425	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 March 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37 and 42-63* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-37 and 42-63* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is responsive to an Amendment filed 29 March 2011. Claims **1-37** and **42-63** are pending. Claims **1**, **16**, **28**, **37** and **52** are amended.

Response to Arguments

2. Applicant's arguments regarding claims **1**, **16**, **28**, **37**, and **52**, filed 29 March 2011, have been fully considered, but are moot in view of new grounds of rejection.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-27 and 42-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakib et al (US 2004/0172658) in view of Skones et al (US 6,760,342 – referred hereinafter as 'Skones').

Referring to claim **1**, Rakib et al. discloses a method for channel mixing in a multimedia system, the method comprises:

- receiving, from a multimedia source, a set of selected channels, the set of selected channels including a plurality of digital channels from a single source, wherein the plurality of digital channels have a common digital transmission format (satellite video)(p. 26, paragraphs 269, 272 & Fig. 8);

- contemporaneously tuning each of the set of selected channels via a plurality of digital tuners to generate encoded channel data for each of the plurality of digital channels, wherein the plurality of digital tuners each operate in accordance with the common digital transmission format (satellite video)(p. 26, paragraphs 269, 272 & Fig. 8);
- interpreting the encoded channel data to identify a channel of interest of the set of selected channels based on a specific channel selection request, wherein each channel of the set of selected channels has a data type (tunes to the selected channel)(p. 17, paragraph 179; p. 20, paragraph 211; p. 22, paragraph 233; & Figs. 4A, 8);
- processing the encoded channel data, which includes data of the channel of interest based on the data type to produce generic data for each channel of the set of selected channels (video data is converted into IP video packets)(p. 18, paragraph 184 & p. 22, paragraph 238);
- combining, by a channel mixer, the generic data of each channel of the set of selected channels into a stream of data (the IP video packets are packet switched onto the bus)(p. 18, paragraph 185 & p. 22, paragraph 238); and
- transmitting the stream of data to a plurality of client devices, wherein the channel of interest is accessible from the stream of data by a client device of the plurality of client devices based upon the specific channel selection request (client NIC determines if a packet is directed towards that client

based on the previous request, and converts and receives data directed towards it)(p. 18, paragraphs 188-191 & p. 22, paragraph 238).

Rakib et al does not explicitly teach a plurality of digital channels with a common modulation format; a plurality of digital tuners demodulating each selected channel. However, Skones teaches a plurality of digital sub-band tuners (DSBTs) demodulating each data stream (or channel) and based on similar modulation formats (col. 2, lines 15-24).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the digital channels received in Rakib et al (which is already of a common transmission format) to be of a common modulation format (in extension, making it of similar tuners and tuner capability), a taught by Skones, for the benefit of increasing compatibility and efficiency (by having similar tuners).

Referring to claims **2-4**, **17**, **18**, **53**, and **54**, Rakib et al. discloses the method/apparatus of claims 1, 16, and 52, further comprises:

- receiving the set of selected channels by receiving packets of the encoded channel data, wherein the encoded channel data includes channel data, and wherein each of the packets includes a header portion and payload portion and interpreting the encoded channel data by interpreting information of the header portion of the packets to identify individual channels of the set of selected channels (the routing process 86 examines the destination addresses in the IP packet headers and encapsulates the channel IP packet

data into Ethernet packets for routing to the appropriate LAN network interface card)(p. 18, paragraphs 184, 185).

NOTE: The USPTO considers the applicant's "at least one of" language to be anticipated by any reference containing any of the subsequent corresponding elements.

Referring to claim **5**, Rakib et al. discloses the method of claim 2, wherein the interpreting the encoded channel data further comprises:

- identifying, based on the information of the header portion, one of the individual channels of the set of selected channels that contains a group of compressed video channels, wherein the channel of interest is within the group of compressed video channels (p. 18, paragraph 185 & p. 22, paragraph 238); and
- isolating the channel of interest from the group of compressed video channels (p. 18, paragraph 185 & p. 22, paragraph 238).

Referring to claims **6**, **19**, **42**, and **55**, Rakib et al. discloses the method/apparatus of claims 1, 16, 37, and 52, respectively, further comprises:

- receiving the set of selected channels by receiving packets of the encoded channel data, wherein the encoded channel data includes channel data from a plurality of sources, and wherein each of the packets includes a header portion and a payload portion (p. 18, paragraph 185 & p. 22, paragraph 238);
- interpreting the encoding channel data by interpreting information of the header portion of the packets to identify the type of data of each channel

provided by each of the plurality of sources (p. 18, paragraph 185 & p. 22, paragraph 238); and

- determining filtering requirements to identify the channel of interest based on the type of data (p. 18, paragraph 185 & p. 22, paragraph 238).

Referring to claims **7**, **20**, **43**, and **56**, Rakib et al. discloses the method/apparatus of claims 6, 19, 42, and 55, respectively, wherein the determining the filtering requirements further comprises at least one of:

- when the type of data is multi-channel compressed video, filtering the multi-channel compressed video of the set of selected channels to produce the channel of interest (p. 18, paragraph 181);
- when the type of data is single channel compressed video, passing the single channel compressed video as the channel of interest (p. 18, paragraph 182);
- when the type of data is multi-channel digitized video data, filtering the multi-channel digitized video data of the set of selected channels to produce the channel of interest (p. 18, paragraph 181);
- when the type of data is single channel digitized video data, passing the single channel digitized video as the channel of interest (p. 18, paragraph 182);
- when the type of data is multi-channel digital audio, filtering the multi-channel digital audio of the set of selected channels to produce the channel of interest (p. 18, paragraph 181);

- when the type of data is single channel digital audio, passing the single channel digital audio as the channel of interest (p. 18, paragraph 182); and
- when the type of data is network carried data, passing the network carried data as the channel of interest (p. 18, paragraphs 181, 182).

NOTE: The USPTO considers the applicant's “at least one of” language to be anticipated by any reference containing any of the subsequent corresponding elements.

Referring to claims **8**, **21**, **44**, and **57**, Rakib et al. discloses the method/apparatus of claims 1, 16, 37, and 52, respectively, further comprises:

- interpreting the encoded channel data to identify a series of channels of interest from the set of selected channels based on a corresponding series of channel selection requests (p. 18, paragraphs 184, 185 & p. 22, paragraph 238);
- processing data of each of the series of channel of interest based on the type of channel of each of the channels of the series of channels of interest to produce a series of generic data (p. 18, paragraphs 184, 185 & p. 22, paragraph 238); and
- converting the series of generic data into the stream of data (p. 8, paragraphs 184, 185 & p. 22, paragraph 238).

Referring to claims **9**, **22**, **45**, and **58**, Rakib et al. discloses the method/apparatus of claims 1, 16, 37, and 52, respectively, wherein the processing the data of the channel of interest further comprises at least one of:

- when the type of data is multi-channel compressed video, converting the data of the channel of interest into generic video data (p. 18, paragraph 181);
- when the type of data is single channel compressed video, converting the video data of the channel of interest into the generic video data (p. 18, paragraph 182);
- when the type of data is multi-channel digitized video data, converting the video data of the channel of interest into the generic video data (p. 18, paragraph 181);
- when the type of data is single channel digitized video data, converting the video data of the channel of interest into the generic video data (p. 18, paragraph 182);
- when the type of data is multi channel digital audio, converting the audio data of the channel of interest into generic audio data (p. 18, paragraph 181);
- when the type of data is single channel digital audio, converting the audio data of the channel of interest into the generic audio data (p. 18, paragraph 182); and
- when the type of data is network carried data, passing the network carried data as the channel of interest (p. 18, paragraphs 181, 182).

NOTE: The USPTO considers the applicant's “at least one of” language to be anticipated by any reference containing any of the subsequent corresponding elements.

Referring to claims **10**, **23**, **46**, and **59**, Rakib et al. discloses the method/apparatus of claims 9, 22, 45, and 58, respectively, wherein the converting to the generic video data further comprises at least one of:

- converting the video data of the channel of interest into MPEG formatted video data (p. 6, paragraph 51);
- converting the video data of the channel of interest into JPEG formatted video data (p. 6, paragraph 51);
- converting the video data of the channel of interest into M-JPEG formatted video data;
- converting the video data of the channel of interest into digital RGB video data; and
- converting the video data of the channel of interest into digital YCbCr video data.

NOTE: The USPTO considers the applicant's "at least one of" language to be anticipated by any reference containing any of the subsequent corresponding elements.

Referring to claims **11**, **24**, **47**, and **60**, Rakib et al. discloses the method/apparatus of claims 9, 22, 45, and 58, respectively, wherein the converting to the generic audio data further comprises at least one of:

- converting the audio data of the channel of interest into MPG formatted audio data (p. 6, paragraph 61 & p. 18, paragraphs 191, 192);
- converting the audio data of the channel of interest into MP3 formatted audio data; and

- converting the audio data of the channel of interest into PCM digitized audio data.

NOTE: The USPTO considers the applicant's "at least one of" language to be anticipated by any reference containing any of the subsequent corresponding elements.

Referring to claims **12** and **48**, Rakib et al. discloses the method/apparatus of claims 1 and 37, respectively, wherein the converting the generic data into a stream of data further comprises:

- determining type of data of the channel of interest (p. 18, paragraph 184 & p. 22, paragraph 238); and
- converting the generic data into the stream of data based on the type of data (p. 18, paragraphs 184, 185 & p. 22, paragraph 238).

Referring to claims **13**, **25**, **49**, and **61**, Rakib et al. discloses the method/apparatus of claims 12, 16, 48, and 52, respectively, wherein the converting the generic data further comprises at least one of:

- when the type of data is multi-channel compressed video, converting the generic video data of the channel of interest into specific video data (p. 18, paragraph 181);
- when the type of data is single channel compressed video, converting the generic video data of the channel of interest into a specific video data (p. 18, paragraph 182);

- when the type of data is multi-channel digitized video data, converting the generic video data of the channel of interest into the specific video data (p. 18, paragraph 181);
- when the type of data is single channel digitized video data, converting the generic video data of the channel of interest into the specific video data (p. 18, paragraph 182);
- when the type of data is multi-channel digital audio, converting the generic audio data of the channel of interest into specific audio data (p. 18, paragraph 181);
- when the type of data is single channel digital audio, converting the generic audio data of the channel of interest into specific audio data (p. 18, paragraph 182); and
- when the type of data is network carried data, passing the network carried data of the channel of interest (p. 18, paragraphs 181, 182).

NOTE: The USPTO considers the applicant's "at least one of" language to be anticipated by any reference containing any of the subsequent corresponding elements.

Referring to claims **14**, **26**, **50**, and **62**, Rakib et al. discloses the method/apparatus of claims 13, 25, 49, and 61, respectively, wherein the converting the generic video data of the channel of interest into specific video data further comprises performing a motion prediction on the generic video data to produce motion prediction data; performing a discrete cosine transform on the motion prediction data to produce Discrete Cosine Transform (DCT) data; quantizing the DCT data to produce quantized

data; zigzag processing the quantized data to produce ZZ data; and Huffman encoding the ZZ data to produce the specific video data (p. 6, paragraph 51).

Referring to claims **15**, **27**, **51**, and **63**, Rakib et al. discloses the method/apparatus of claims 1, 16, 37, and 52, respectively, further comprises:

- determining the channel of interest is compressed among multiple compressed video channels (p. 17, paragraph 179 & p. 22, paragraph 233);
- receiving a control signal indicating the type of processing of the data of the channel of interest (p. 17, paragraph 179 & p. 22, paragraph 233); and
- when the control signal indicates multiple channel processing:
    - decompressing the multiple compressed video channels to produce multiple channels (p. 17, paragraph 179 & p. 22, paragraph 233);
    - processing data of the multiple channels based on the type of channel to produce multiple generic data and converting the multiple generic data into the stream of data (p. 18, paragraphs 184, 185 & p. 22, paragraph 238).

Referring to claim **16**, Rakib et al. discloses a method for channel mixing in a multimedia system, the method comprises:

- receiving, from a multimedia source, a set of selected channels, the set of selected channels including a plurality of digital channels from a single source, wherein the plurality of digital video channels have a common digital transmission format (satellite video)(p. 26, paragraphs 269, 272; & Fig. 8);

- contemporaneously tuning each of the set of selected channels via a plurality of digital tuners to generate encoded channel data for each of the plurality of digital channels, wherein the plurality of digital tuners each operate in accordance with the common digital transmission format (satellite video)(p. 26, paragraphs 269, 272; & Fig. 8);
- interpreting the encoded channel data to identify a data type of a channel of interest contained within the set of selected channels based on a specific channel selection request, wherein each channel of the set of selected channels has a data type and separating the channel of interest from the set of selected channels based on the type of data (tunes to the selected channel)(p. 17, paragraph 179; p. 20, paragraph 211; p. 22, paragraph 233; & Figs. 4A, 8);
- processing the encoded channel data and the data of the channel of interest based on the data type to produce generic data for each channel of the set of selected channels (video data is converted into IP video packets)(p. 18, paragraph 184 & p. 22, paragraph 238); and
- combining, by a channel mixer, the generic data of each channel of the set of selected channels into a stream of data (the IP video packets are packet switched onto the bus)(p. 18, paragraph 184 & p. 22, paragraph 238); and
- transmitting the stream of data to a plurality of client devices, wherein the channel of interest is accessible by a client device of the plurality of client devices based upon the specific channel selection request (client NIC

determines if a packet is directed towards that client based on the previous request, and converts and receives data directed towards it)(p. 18, paragraphs 188-191 & p. 22, paragraph 238).

Referring to claim **37**, Rakib et al. discloses an apparatus for channel mixing in a multimedia system, the apparatus comprises a processing module and memory operably coupled to the processing module, wherein the memory includes operational instructions that cause the processing module to:

- receive, from a multimedia source, a set of selected channels, the set of selected channels including a plurality of digital channels from a single source (satellite digital video-on-demand and satellite digital DirecTV)(p. 26, paragraphs 269, 272 & Fig. 8) wherein the plurality of digital channels have a common digital transmission format (satellite video)(p. 26, paragraphs 269, 272 & Fig. 8);
- contemporaneously tuning each of the set of selected channels via a plurality of digital tuners to generate encoded channel data for each of the plurality of digital channels (satellite digital video-on-demand and satellite digital DirecTV)(p. 26, paragraphs 269, 272 & Fig. 8), wherein the encoded data includes a header portion and a payload portion, and wherein the header portion includes a channel identifier that identifies a corresponding one of the plurality of digital channels (p. 5, paragraph 39; p. 13, paragraph 125; p. 14, paragraph 139; p. 17, paragraphs 166, 167; p. 18, paragraph 184; & p. 22, paragraph 238);

- interpret the encoded channel data to identify a data type of a channel of interest of the set of selected channels based on a specific channel selection request by interpreting the channel identifier of the header portion of the packets to identify individual channels of the set of selected channels, wherein each channel of the set of selected channels has a data type (p. 18, paragraphs 184, 185 & p. 22, paragraph 238);
- process the encoded channel data, which includes data of the channel of interest, based on the data type of each channel to produce generic data for each channel of the set of selected channels (video data is converted into Ethernet video packets)(p. 18, paragraphs 184, 185 & p. 22, paragraph 238);
- combine, by a channel mixer, the generic data of each channel of the set of selected channels into a stream of data (the Ethernet video packets are packet switched onto the bus)(p. 18, paragraphs 184, 185 & p. 22, paragraph 238); and
- transmit the stream of data to a plurality of client devices, wherein the channel of interest is accessible from the stream of data by a client device of the plurality of client devices based upon the specific channel selection request (client NIC determines if a packet is directed towards that client based on the previous request, and converts and receives

data directed towards it)(p. 18, paragraphs 188-191 & p. 22, paragraph 238).

Rakib et al does not explicitly teach a plurality of digital channels with a common modulation format; a plurality of digital tuners demodulating each selected channel.

However, Skones teaches a plurality of digital sub-band tuners (DSBTs) demodulating each data stream (or channel) and based on similar modulation formats (col. 2, lines 15-24).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the digital channels received in Rakib et al (which is already of a common transmission format) to be of a common modulation format (in extension, making it of similar tuners and tuner capability), a taught by Skones, for the benefit of increasing compatibility and efficiency (by having similar tuners).

Referring to claim **52**, Rakib et al. discloses an apparatus for channel mixing in a multimedia system, the apparatus comprises a processing module and memory operably coupled to the processing module, wherein the memory includes operational instructions that cause the processing module to:

- receive, from a multimedia source, a set of selected channels, the set of selected channels including a plurality of digital channels from a single source, wherein the plurality of digital channels have a common

digital transmission format (satellite video)(p. 26, paragraphs 269, 272 & Fig. 8);

- contemporaneously tuning each of the set of selected channels via a plurality of digital tuners to generate encoded channel data for each of the plurality of digital channels, wherein the plurality of digital tuners each operate in accordance with the common digital transmission format (satellite video)(p. 26, paragraphs 269, 272 & Fig. 8);
- interpret the encoded channel data to identify a data type of a channel of interest of the set of selected channels based on a specific channel selection request, wherein each channel of the set of selected channels has a data type (tunes to the selected channel)(p. 17, paragraph 179; p. 20, paragraph 211; p. 22, paragraph 233; & Figs. 4A, 8);
- process the encoded channel data, which includes data of the channel of interest, based on the data type of each channel to produce generic data for each channel of the set of selected channels (video data is converted into IP video packets)(p. 18, paragraph 184 & p. 22, paragraph 238);
- combine, by a channel mixer, the generic data of each channel of the set of selected channels into a stream of data (the IP video packets are packet switched onto the bus)(p. 18, paragraph 185 & p. 22, paragraph 238); and

- transmit the stream of data to a plurality of client devices, wherein the channel of interest is accessible from the stream of data by a client device of the plurality of client devices based upon the specific channel selection request (client NIC determines if a packet is directed towards that client based on the previous request, and converts and receives data directed towards it)(p. 18, paragraphs 188-191 & p. 22, paragraph 238).

6. Claims 28-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakib et al. in view of Skones and further in view of Son et al.

Referring to claim **28**, Rakib et al. discloses a channel mixer for use in a multimedia system, the channel mixer comprises:

- stream parsing module (Fig. 8) operably coupled to receive, from a multimedia source, a set of selected channels, the set of selected channels including a plurality of digital channels from a single source (satellite digital video-on-demand and satellite digital DirecTV)(p. 26, paragraphs 269, 272 & Fig. 8), wherein the stream parsing module includes a plurality of digital tuners for contemporaneously tuning each of the set of selected channels to generate encoded channel data for each of the plurality of digital channels (satellite digital video-on-demand and satellite digital DirecTV)(p. 26, paragraphs 269, 272 & Fig. 8), wherein the plurality of digital tuners each operate in accordance with a common digital transmission format and wherein the stream parsing module generates generic data for each channel

of the set of selected channels (video data is demodulated into MPEG video packets), and identifies at least one of the channels based on a specific channel selection request (tunes to the selected channel) and data transcoding module operably coupled to combine, by a channel mixer, the generic data of the at least one channel into a stream of data having a specific data format and for transmission of the data stream to a plurality of client devices (the IP video packets are packet switched onto the bus), wherein the at least one identified channel is accessible from the data stream by a client device of the plurality of client devices based upon the specific channel selection request (multiple tuners receive multiple channels from a variety of sources according to user selections. The video data is compressed according to a compression format, such as MPEG, and the data is then routed to the requesting user as a set of packets)(p. 17, paragraph 179; p. 18, paragraphs 184, 185; p. 20, paragraph 211; p. 22, paragraphs 233, 238; & Figs. 4A, 8).

Rakib et al. further discloses that many different compression standards can be used (p. 6, paragraph 51).

Rakib et al does not explicitly teach a plurality of digital channels with a common modulation format; a plurality of digital tuners demodulating each selected channel. Further, Rakib et al. does not specifically disclose that the transcoding module operates to transcode the generic data in a first compressed digital video format to the specific

data format in accordance with a second compressed digital video format and wherein the first compressed digital video format differs from the second compressed digital video format.

Skones teaches a plurality of digital sub-band tuners (DSBTs) demodulating each data stream (or channel) and based on similar modulation formats (col. 2, lines 15-24). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the digital channels received in Rakib et al (which is already of a common transmission format) to be of a common modulation format (in extension, making it of similar tuners and tuner capability), a taught by Skones, for the benefit of increasing compatibility and efficiency (by having similar tuners).

Son et al. discloses preprocessing or postprocessing content for transmission to client devices (p. 1, paragraph 9). Son et al. discloses that, if content in a format such as AVI, Moving JPEG, MPEG-1, MPEG-2, MPEG-4, QuickTime, etc. needs to be converted into a particular format for use by a viewer or subscriber terminal, the transcoder converts the content (p. 2, paragraph 22). For example, MPEG-2 content can be converted into MPEG-4 content or other types of content can be converted into MPEG-2 content playable on conventional set top terminals (p. 2, paragraph 22). Son et al. further discloses encapsulating the transcoded content into IP packets for delivery to the destination device (p. 2, paragraphs 23, 24).

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the IP video circuit and routing process of Rakib et al. to convert the MPEG-2 content into a different compressed video format before transmitting the IP packets, such as that taught by Son et al. in order to service a wider base of subscriber devices (Son et al. p. 1, paragraph 7).

Referring to claim **29**, the combination of Rakib et al., Skones and Son et al. teach the channel mixer of claim 28, further comprises:

- memory 129 131 135 (Rakib et al. Fig. 4A); and
- memory controller 128 133 operably coupled to the memory, the stream parsing module and the data transcoding module, wherein the memory controller controls reading and writing of data to the memory by the stream parsing module and the data transcoding module (Rakib et al. Fig. 4A).

Referring to claim **30**, the combination of Rakib et al., Skones and Son et al. teach the channel mixer of claim 28, wherein the stream parsing module further comprises:

- plurality of bit stream modules 378 380 372 386 388 390 392 394 396 398 400, wherein each of the plurality of bit stream modules filters the encoded channel data to produce a separate channel of interest based on a corresponding channel selection request of a plurality of channel selection requests (Rakib et al. Fig. 8); and
- processor 128 operably coupled to the plurality of bit stream modules, wherein the processor generates generic data for each of the separate

channels of interest based on type of data for each of the separate channels of interest (Rakib et al. p. 24, paragraph 250 & Fig. 8).

Referring to claim **31**, the combination of Rakib et al., Skones and Son et al. teach the channel mixer of claim 30, wherein each of the plurality of bit stream modules further comprises an interpretor (Rakib et al. IP Video Process 158) operably coupled to receive a plurality of packets containing the encoded channel data, wherein the interpreter interprets the packets to identify type of data for the channel of interest (Rakib et al. p. 13, paragraph 125 & p. 17, paragraphs 166, 167), and wherein the filtering performed by each of the plurality of bit stream modules is dependent on the type of data (Rakib et al. p. 13, paragraphs 125, 126).

Referring to claim **32**, the combination of Rakib et al., Skones and Son et al. teach the channel mixer of claim 30 further comprises an input bit bucket operably coupled to the processor and the memory controller, wherein the input bit bucket provides byte to bit conversion of data stored in the memory (Rakib et al. p. 24, paragraph 249).

Referring to claim **33**, the combination of Rakib et al., Skones and Son et al. teach the channel mixer of claim 30 further comprises a decoder instruction packet module operably coupled to the memory controller and the transcoding module, wherein the decoder instruction packet module coordinates the pipelining of data through the transcoding module (Rakib et al. p. 13, paragraphs 125, 126).

Referring to claim **34**, the combination of Rakib et al., Skones and Son et al. teaches the channel mixer of claim 33, wherein the transcoding module further comprises:

- MPEG decoding module 352 operably coupled to the memory controller and to the decoder instruction packet module, wherein the MPEG decoding module decodes MPEG encoded video data (Rakib et al. p. 22, paragraph 237); and
- MPEG encoding module 147 operably coupled to the memory controller and to the decoder instruction packet module, wherein the MPEG encoding module encodes generic video data into MPEG video data (Rakib et al. Fig. 4A).

Referring to claim **35**, the combination of Rakib et al., Skones and Son et al. teach the channel mixer of claim 30 further comprises a system bus interface (host bus 156)(Rakib et al. Fig. 4A & Fig. 8) operably coupled to the processor, wherein the system bus interface provides interfacing to at least one of: system processor and system memory.

NOTE: The USPTO considers the applicant's “at least one of” language to be anticipated by any reference containing any of the subsequent corresponding elements.

Referring to claim **36**, the combination of Rakib et al., Skones and Son et al. teach the channel mixer of claim 30 further comprises a digital to analog converter for the stream of data into analog signals (Rakib et al. p. 5, paragraph 39).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

8. Hodge (US 2002/0007494).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dika C. Okeke whose telephone number is (571)270-5367. The examiner can normally be reached on Monday - Thursday, 9:00 a.m. to 7:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian T. Pendleton can be reached on (571)272-7527. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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